UNITED
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Economic and Social Council

Distr.
LIMITED

E/CN.16/1993/L.1
6 April 1993

ORIGINAL: ENGLISH

COMMISSION ON SCIENCE AND
TECHNOLOGY FOR DEVELOPMENT
First session
12-23 April 1993
Item 2 of the provisional agenda*

ADOPTION OF THE AGENDA AND OTHER ORGANIZATIONAL MATTERS

State of preparation of documentation for the session

Note by the Secretariat

1. By Economic and Social Council resolutions 1979/1 and 1979/69 on the control and limitation of documentation and 1988/77 on the revitalization of the Council, the Council reiterated that the Secretariat should circulate the relevant documentation in all the working languages six weeks before the opening of the sessions of the Council and its subsidiary organs, and invited the Secretariat to take steps to ensure effective compliance with rule 13, paragraph 4, of the rules of procedure of the Council. By resolution 1979/69, the Council requested the Secretariat to inform the Council and its subsidiary bodies, in the relevant annotated agenda, which documents had not been issued in accordance with the six-week rule, with a full explanation of the reasons that prevented their circulation.

2. In view of the schedule of the first session of the Commission on Science and Technology for Development (12-23 April 1993), the documentation for that session should have been submitted to the Division of Economic and Social Affairs and Inter-Agency Coordination by 1 February and circulated by 1 March 1993. However, the need to process documents for intergovernmental bodies meeting before the Commission on Science and Technology for Development prevented more timely issuance of the Commission's documentation.

* E/CN.16/1993/1.

Annex

STATUS OF DOCUMENTATION AS AT 6 APRIL 1993

Agenda item	Document and symbol	Date of submission to the Division of Economic and Social Council Affairs and Inter-Agency Coordination	Date of submission to the Office of Conference Services	Actual or projected date of issue
2	Annotated provisional agenda (E/CN.16/1993/1)			Issued
3	Report of the Secretary-General on the contribution of technology to industrialization and regional and global integration (E/CN.16/1993/2)	29 January	23 March	12 April
4	Report of the Secretary-General on ways and means of improving the quality of coordination and cooperation in science and technology for development (E/CN.16/1993/3)	22 February	8 March	14 April
	Report of the Secretary-General on the assessment of the effect of activities of the United Nations system related to the process of creating and strengthening endogenous capacity-building in science and technology in developing countries (E/CN.16/1993/4)	18 February	10 March	14 April
	Report of the Secretary-General on the activities of the Department of Economic and Social Development in science and technology for development (E/CN.16/1993/5)	4 February	18 March	15 April
	Report of the Meeting of High-level Experts on Science and Technology for Development (E/CN.16/1993/6)	28 January	12 March	15 April

Agenda item	Document and symbol	Date of submission to the Division of Economic and Social Council Affairs and Inter-Agency Coordination	Date of submission to the Office of Conference Services	Actual or projected date of issue
5	Report of the Secretary-General on the organization of ad hoc panels/ workshops on specific issues of science and technology for development (E/CN.16/1993/7)	28 January	16 March	19 April
6	Note by the Secretary-General on the implications of the outcome of the United Nations Conference on Environment and Development, including Agenda 21, for the work of the Commission on Science and Technology for Development (E/CN.10/1993/8)	4 February	12 March	13 April
	Report of the Secretary-General on the utilization and marketing of energy technologies, focusing on policy issues and options for the effective transfer and application of environmentally sound energy technologies (E/CN.16/1993/9)	28 January	26 March	13 April
7	Report of the Secretary-General on the organization of a coalition of resources to finance science and technology for development (E/CN.16/1993/10)	4 February	18 March	19 April
4	Note by the Secretariat on the Expert Group Meeting on Technology Assessment, Monitoring and Forecasting (E/CN.16/1993/CRP.1)			Issued
8	Note by the Secretariat on proposals for the biennium 1994-1995 in the field of science and technology (E/CN.16/1993/CRP.2)	30 March		

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ADOPTION OF THE AGENDA AND OTHER ORGANIZATIONAL MATTERS

Organization of the work of the session

Note by the Secretariat

1. The draft organization of work for the Commission on Science and Technology for Development at its first session (see annex) has been prepared pursuant to relevant decisions of the General Assembly and the Economic and Social Council in order to facilitate the consideration of the agenda items within the time and services allocated to the Commission.

2. The first meeting of the Commission will be convened on Monday, 12 April 1993, at 10 a.m. Facilities will be available for two formal meetings each day. The meeting hours (Monday to Friday, inclusive) will normally be from 10 a.m. to 1 p.m. and from 3 p.m. to 6 p.m.

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* E/CN.16/1993/1.

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Annex

DRAFT ORGANIZATION OF WORK

Monday, 12 April

Morning		Opening of the session.
	Item 1.	Election of officers.
	Item 2.	Adoption of the agenda and other organizational matters (E/CN.16/1993/1 and E/CN.16/1993/L.1 and L.2).
	Item 3.	Substantive theme: the contribution of technologies, including new and emerging ones, for the industrialization of developing countries and for the strengthening of regional and global integration processes, including proposals on ways and means of transferring such technologies and for their incorporation in the production sector of those countries (E/CN.16/1993/2).
		Introduction and general discussion.
Afternoon	Item 3.	Continuation of general discussion.

Tuesday, 13 April

Morning and afternoon	Item 3.	Substantive theme: the contribution of technologies, including new and emerging ones, for the industrialization of developing countries and for the strengthening of regional and global integration processes, including proposals on ways and means of transferring such technologies and for their incorporation in the production sector of those countries (E/CN.16/1993/2).
		Continuation of general discussion.

Wednesday, 14 April

Morning	Item 3.	Substantive theme: the contribution of technologies, including new and emerging ones, for the industrialization of developing countries and for the strengthening of regional and global integration processes, including proposals on ways and means of transferring such technologies and for their incorporation in the production sector of those countries (E/CN.16/1993/2).
		Conclusion of general discussion.

Afternoon	Item 6.	Science and technology for sustainable development: Scientific and technological implications of sustainable development (E/CN.16/1993/8). Science and technology for sustainable development: Transfer and application of environmentally sound energy technologies (E/CN.16/1993/9). Introduction and general discussion.
Thursday, 15 April		
Morning and afternoon	Item 4.	Activities of the United Nations system: Coordination and cooperation in science and technology within the United Nations system (E/CN.16/1993/3). Activities of the United Nations system: Assessment of the effect of activities of the United Nations system related to the process of creating and strengthening endogenous capacity-building in science and technology in developing countries (E/CN.16/1993/4). Activities of the United Nations system: Activities of the Department of Economic and Social Development in science and technology for development (E/CN.16/1993/5 and 6 and E/CN.16/1993/CRP.1). Introduction and general discussion.
6 p.m.		Deadline for submission of draft proposals under item 3
Friday, 16 April		
Morning and afternoon	Item 4.	Activities of the United Nations system: Coordination and cooperation in science and technology within the United Nations system (E/CN.16/1993/3). Activities of the United Nations system: Assessment of the effect of activities of the United Nations system related to the process of creating and strengthening endogenous capacity-building in science and technology in developing countries (E/CN.16/1993/4).

		Activities of the United Nations system: Activities of the Department of Economic and Social Development in science and technology for development (E/CN.16/1993/5 and 6).
		Continuation and conclusion of general discussion.
Monday, 19 April		
Morning and afternoon	Item 7.	Financing science and technology for development, including activities of the United Nations Fund for Science and Technology for Development (E/CN.16/1993/10).
		Introduction and general discussion and conclusion of item 7.
6 p.m.		Deadline for submission of draft proposals under item 4
Tuesday, 20 April		
Morning	Item 5.	Ad hoc panels/workshops to examine specific issues of science and technology for development (E/CN.16/1993/7).
Afternoon	Item 8.	Programme questions (E/CN.16/1993/CRP.2)
		Introduction and general discussion.
6 p.m.		Deadline for submission of draft proposals under item 7.
Wednesday, 21 April		
Morning and afternoon	Items 3, 4, 6, & 7.	Informal consultations on draft proposals.
Thursday, 22 April		
Morning and afternoon	Items 3, 4, 6, & 7.	Informal consultations on draft proposals.
Friday, 23 April		
Morning	Items 3, 4, 6, & 7.	Informal consultations on draft proposals.
		Consideration of and action on all outstanding draft proposals.

Afternoon	Item 9.	Election of the Chairperson and nomination of other officers for the second session of the Commission.
	Item 10.	Provisional agenda and organization of work for the second session of the Commission.
	Item 11.	Adoption of the report of the Commission on its first session.

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FOR DEVELOPMENT
First session
12-23 April 1993
Agenda item 12

ADOPTION OF THE REPORT OF THE COMMISSION ON ITS FIRST SESSION

Draft report

Rapporteur: Mr. Asrat BULBULA (Ethiopia)

Chapter ___

ORGANIZATION OF THE SESSION

A. Opening and duration of the session

1. The Commission on Science and Technology for Development held its first session at United Nations Headquarters from 12 to __ April 1993. The Commission held ___ meetings (1st to ____) and a number of informal meetings.

2. The Under-Secretary-General for Policy Coordination and Sustainable Development made an opening statement, in which he traced the history of the involvement of the United Nations in the field of science and technology, beginning with the Charter, through the United Nations Conference on the Application of Science and Technology for the Benefit of the Less Developed Countries, held at Geneva in 1963, and the United Nations Conference on Science and Technology for Development, held in Vienna in 1979, to the current efforts at restructuring the economic and social sectors of the United Nations, including science and technology. The Vienna Programme of Action, the major outcome of the 1979 Conference, constituted a major turning-point in those efforts. The General Assembly, commemorating the tenth anniversary of the adoption of the Vienna Programme of Action, in 1989, reaffirmed its validity, while at the same time expressing disappointment at its implementation. The Assembly, as part of the efforts to revitalize and reinvigorate the economic and social sectors of the United Nations, inter alia, transformed the

Intergovernmental Committee on Science and Technology for Development and the Advisory Committee on Science and Technology for Development into a functional commission of the Economic and Social Council.

3. The Under-Secretary-General then described the substantive setting for the work of the Commission. Science and technology were the bridge between traditional development and sustainable development and a critical input into enhancing comparative advantages. They had an important role in addressing such global problems as poverty alleviation. At the forefront of the global agenda for the next century would be the human capacity to orchestrate the dynamics of political processes, economic management and technological change in the framework of sustainable development. Current technologies, such as micro electronics and biotechnology, were inherently different from the earlier generation of technologies; they were interdisciplinary and required an integrated and interorganizational approach. The time lag between scientific discoveries, technological advances and commercial application had narrowed dramatically, leaving very little time to grasp their full implications. New materials like polymers, fine ceramics, fibre optics and composites and high temperature superconducting materials were radically altering the dynamics of comparative advantages among nations. Information technologies were altering profoundly the rules of global finance, economics and politics. New frameworks needed to be created to address the generation and application of knowledge for development goals. A basis for intergovernmental discussions would be required in order to avoid an adversarial relationship between scientific and technical opinion and policy makers. Every country was trying to cope with the impact of emerging technologies and to put through the right mix of policies and programmes designed to enhance their endogenous capacities and comparative advantages. The Commission should consider how best the United Nations system could play an effective role in this regard.

4. He said that the Commission would be discussing the issue of science and technology for sustainable development under agenda item 6, which would give the Commission an opportunity to integrate its work programme with the follow-up of Agenda 21, adopted by the United Nations Conference on Environment and Development. The Commission on Sustainable Development, at its first substantive session, would consider related matters and the outcome of the deliberations of the Commission on Science and Technology for Development would be useful.

5. In conclusion, he said that the Commission, as part of its agenda, would also be considering such important subjects as the contribution of technologies to industrialization, and regional and global integration (the substantive theme), organized coalition of resources for science and technology and, a subject of special importance, system-wide coordination in science and technology.

6. The representative of Colombia, speaking on behalf of the States Members of the United Nations that are members of the Group of 77, emphasized the vital importance of science and technology to the developing world. The Group of 77 had consistently supported the activities of the United Nations in the field of science and technology. Because of its multilateral and neutral nature, the United Nations was a particularly significant agent for promoting international cooperation in that core element of development endeavour. The Commission, as

the main multilateral forum for science and technology, was expected to play a key role by providing the Economic and Social Council with crucial substantive elements to increase the impact of the United Nations in development cooperation.

7. In the ongoing discussions on the reform of the Secretariat, the changes proposed in science and technology should meet, at least four criteria: provision of adequate resources; a clearly identifiable supporting unit; provision of adequate senior officials; and clear coordination and division of labour mechanisms, especially in technical cooperation activities and substantive support for intergovernmental machinery. The United Nations must maintain among its functions the promotion of endogenous capacity.

8. The representative of Denmark, speaking on behalf of the States Members of the United Nations that are members of the European Economic Community, recalled the fact that the Commission had been created as part of the ongoing process of restructuring and revitalization of the United Nations in the economic, social and related fields, and hoped that it would be an effective, integral body providing impartial expert advice in the field of science and technology for development. In a rapidly changing world, science and technology played a key role in the improvement of the quality of life and the alleviation of poverty in the context of the promotion of economic growth and sustainable development, particularly in developing countries. The Community and its member States were committed to promoting scientific and technological cooperation to developing countries, and had several related activities, such as its framework programme for research and development, 1990-1994. Like other intergovernmental bodies, the Commission had been requested to integrate relevant parts of Agenda 21 into its work programme and several chapters of Agenda 21 dealt with important science and technology issues. Science and technology were essential tools in mankind's move towards sustainable development. Intensive cooperation between developing countries was required at the bilateral, regional and multilateral levels. The Commission on Science and Technology for Development had the potential to ensure that the activities of the United Nations system in that area were coherent, coordinated and compatible with Agenda 21.

9. Several representatives expressed concern that the current restructuring of economic and social sectors of the United Nations, including science and technology, might have the unintended effect of weakening the contribution of the United Nations to that critical subject, particularly at a time when the important role of science and technology in environmental protection was increasingly being recognized. It was felt that enhancing endogenous science and technology building in the developing countries and poverty alleviation should be viewed as being as important as peacemaking and peace-keeping.

B. Attendance

10. In accordance with General Assembly resolution 46/235, the Commission is composed of 53 States Members of the United Nations, elected by the Economic and Social Council for a term of four years on the principle of equitable geographical distribution.

11. The session was attended by ___ States members of the Commission. Observers for other States Members of the United Nations and for non-member States and representatives of specialized agencies and intergovernmental and non-governmental organizations also attended. A list of participants is given in annex I to the present report.

C. Election of officers

12. At its 1st meeting, on 12 April, the Commission elected, by acclamation, Oleg V. Roudenski (Russian Federation) Vice-Chairman. The Vice-Chairman conducted the business as Acting Chairman.

13. At its 6th meeting, on 14 April, the Commission elected the following officers by acclamation:

Chairman: Mikoto Usui (Japan)

Vice-Chairmen: Georges Kint (Belgium)
William Ehlers (Uruguay)

Rapporteur: Asrat Bulbula (Ethiopia)

D. Agenda and organization of work

14. At its 1st meeting, on 12 April, the Commission adopted the provisional agenda contained in document E/CN.16/1993/1, with the addition of an item entitled "Other matters".

15. At the same meeting, the Commission approved the organization of work of the work of the session (see E/CN.16/1993/L.2).

E. Consultations with non-governmental organizations

16. In accordance with rule 76 of the rules of procedure of the functional commissions of the Economic and Social Council (E/5975/Rev.1), representatives of the following non-governmental organizations in consultative status with the Council made statements under agenda items 3, 4 and 6:

Agenda item 3:

Roster: Sunsat Energy Council

Agenda item 4:

Category II: International Association for Impact Assessment

Agenda item 6:

Category II: International Council of Scientific Unions

Roster: American Society for Engineering Education
Third World Academy of Sciences

Annex I

ATTENDANCE

Members

Antigua and Barbuda:	Lionel A. Hurst, John W. Ashe
Austria:	Bernd M. Rode
Azerbaijan:	Rufat N. Novruzov
Belarus:	Vladimir A. Labounov, Alexei A. Mojoukhov
Belgium:	Georges Kint
Bolivia:	Oscar Serrate Cuéllar, Bárbara Canedo Patiño, Martha Montaño Durán
Brazil:	Adhemar G. Bahadian, Regis P. Arslanian, Ronaldo Costa Filho
Bulgaria:	Valery Jotov
Burundi:	Stanislas Ruzenza
Cape Verde:	Luis Alves
Chile:	Bernabé Santelices González
China:	Shaoqi Wang, Tongchao Jin, Zhong Zhang
Colombia:	Luis Fernando Jaramillo, Clemente Forero, Rafail Ramírez, Hernando Clavijo
Congo:	Désiré Nkounkou, George V. Oko
Costa Rica:	Orlando Morales
Egypt:	Mohamed M. El Halwaqi
Ethiopia:	Asrat Bulbula, Getaneh Yimene
Germany:	Wolfgang Lehman
Guatemala:	Francis E. Aguilar Hecht, Marco A. Palacios López
India:	Mohammad H. Ansari, T. P. Sreenivasan, J. Dhar, Nikhil Seth
Jamaica:	Arnoldo Ventura

Japan:	Mikoto Usui
Jordan:	Fakhruddin Daghestani
Libyan Arab Jamahiriya:	Taher A. Jehaimi, Ali S. Akashi
Malawi:	
Malaysia:	Mohd. Hassan Nordin, Mohd. Mudzakir Sinon
Malta:	Leslie Agius
Marshall Islands:	Daniel C. Smith, Carl L. Heine, Lance E. Laack
Mexico:	Feliciano Sánchez, José Robles, Patricia A. Belmar
Morocco:	Abdallah El Masslout, Ahmed Amaziane
Netherlands:	J. G. Waardenburg, A. Hamburger, K. Rade
Niger:	Suzanne Maikarfi
Nigeria:	
Pakistan:	Hilal A. Raza
Philippines:	William J. Padolina, Narcisa L. Escaler, Ronald B. Allarey, José Lino B. Guerrero
Romania:	Georges Matache, Ioan Barac
Russian Federation:	Oleg Roudenski
Saudi Arabia:	Mansour Al Malik
Spain:	Julio Montes, Rafael Fernandez Pita, Ana Menendez
Togo:	Messanvi Gbeassor
Uganda:	Stephen P. Kagoda
Ukraine:	Serguiy L. Yampolsky, Igor V. Goumenny
United Kingdom of Great Britain and Northern Ireland:	C. H. G. Oldham
United Republic of Tanzania:*	

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* Not represented at the session.

United States of America: John A. Daly, Edward Marks, Howard Minners, Benjamin A. Bergmann, Gwendolyn Griffith, Ismail Sarsour

Uruguay: William Ehlers

Viet Nam: Le Quy An, Nguyen Minh Thong

States Members of the United Nations represented by observer

Algeria, Côte d'Ivoire, Cuba, Ecuador, Haiti, Iran (Islamic Republic of), Italy, Kyrgyzstan, Latvia, Micronesia (Federated States of), Nicaragua, Panama, Poland, Portugal, Suriname, Sweden, Thailand, Tunisia and Venzuela

United Nations

Office for Outer Space Affairs, Economic Commission for Africa, United Nations Conference on Trade and Development, United Nations Population Fund, United Nations University

Specialized agencies

International Labour Organisation, Food and Agriculture Organization of the United Nations, United Nations Educational, Scientific and Cultural Organization, World Bank, United Nations Industrial Development Organization

Intergovernmental organizations

Asian-African Legal Consultative Committee, Commission of the European Communities, Latin American Economic System

Non-governmental organizations

Category I: International Chamber of Commerce

Category II: International Association for Impact Assessment
International Council of Scientific Unions

Roster: American Society for Engineering Education
Sunsat Energy Council
Third World Academy of Sciences
World Federation of Engineering Organizations

Other organizations

With the approval of the Commission, the following organizations attended the session as observers: International Union of Scientific Associations, International Union of Technical Associations, Monomeros Colombo Venezolanos S.A., Société des électriciens et des électroniciens, Western Society of Malacologists, World Engineering Partnership for Sustainable Development

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ADOPTION OF THE REPORT OF THE COMMISSION ON ITS FIRST SESSION

Draft report

Addendum

Rapporteur: Mr. Asrat BULBULA (Ethiopia)

Chapter ___ SUBSTANTIVE THEME: THE CONTRIBUTION OF TECHNOLOGIES, INCLUDING NEW AND EMERGING ONES, FOR THE INDUSTRIALIZATION OF DEVELOPING COUNTRIES AND FOR THE STRENGTHENING OF REGIONAL AND GLOBAL INTEGRATION PROCESSES, INCLUDING PROPOSALS ON WAYS AND MEANS OF TRANSFERRING SUCH TECHNOLOGIES AND FOR THEIR INCORPORATION IN THE PRODUCTIVE SECTOR OF THOSE COUNTRIES

1. The Commission considered item 3 of its agenda at its 1st to 5th meetings from 12 to 14 April 1993. It had before it the report of the Secretary-General on the contribution of technology to industrialization and regional and global integration (E/CN.16/1993/2). A background paper, consisting of several studies and providing an overview of the relationship between globalization and the development process, regional case-studies of scientific and technological cooperation and several case-studies of national technological systems, was made available to the Commission.

2. In introducing the report, the Chief of the Science and Technology Branch of the Department of Economic and Social Development of the Secretariat said that the report reviewed global technological and managerial transformations and their effects on the economies of developing countries, and examined the extent

to which regional and global economic integration could contribute to technological modernization in the developing world. It called for integrated science and technology policies in developing countries in order to ensure the upgrading of their scientific and technological base.

3. The report discussed policy options for strengthening national entrepreneurship and endogenous science and technological capability at the national, regional and subregional levels: there was wide scope for cooperation at various levels aimed at maximizing resources and promoting interfirm regional agreements for technological innovation in order to improve the overall international competitiveness of developing countries.

4. The Commission commended the report of the Secretary-General as an objective and comprehensive basis for informed debate. Globalization trends characterized new modalities of international specialization, to which developing countries and economies in transition had to respond. Increasingly, such static comparative advantage factors as natural resources and unskilled labour endowments ceased to be the most important determinants of international competitiveness. The experience of many countries that had achieved rapid and high rates of economic growth demonstrated the critical role of factors associated with technology-based competition, namely human skills and resources, technological infrastructure and social organization.

5. For that purpose, the necessity of a scientific and technological base was stressed. Countries would then be able to engage effectively in the ongoing global restructuring process. The priority required for long-term investments in education and human resources in general was emphasized, as had been noted in paragraph 82 of the Secretary-General's report.

6. A number of speakers concurred with the views contained in the report regarding the need for a consistent institutional and regulatory framework at the national level for the effective operation of innovation systems, as well as the complexity of converting research and development (R&D) activities into economic growth and socio-economic development. For that to be achieved, adequate transfer of technology formed but one of the components of successful technological upgrading. In that respect, the Commission discussed the question of the management of incremental technical change and the problems associated with the lack of that capability. A summary of the conclusions and recommendations of a symposium on management in Africa, held in the Congo from 23 to 29 March 1992, was provided.

7. The European experience with regional and bilateral programmes on science and technology - the European Research Cooperation Agency (EUREKA), for example - was mentioned as a possible source of inspiration for developing countries. Yet it was observed that developing countries were facing exceptional difficulties in reaching compatible levels of technological development, without which effective science and technology cooperation would not occur.

8. It was noted that some aspects of the globalization of markets and of the breaking down of the operations of large transnational corporations might have worrisome effects on technological capabilities of developing countries. Current changes in the strategies of transnational corporations posed new

challenges to human resource policies in developing countries. Increasingly, large transnational corporation carried out R&D in one country, design activities in another, and manufacturing production could be spread over several regions. Those exogenous changes introduced new elements to past concerns related to the adequate balance between the proportion of engineers and scientists engaged in R&D activities and the remaining human resources, which catered to routine domestic activities.

9. In addition, the Commission noted problems of the least developed countries associated with the "brain drain" to more industrialized countries. Similar but special problems were also being faced by the countries in transition to market economies. On the one hand, the countries in transition had a high level of scientific and technological development in various fields. On the other, their systems had to adjust to a new market-oriented context and to environmental concerns.

10. While the importance of technology for industrialization should not be underestimated, the role of technology in such other critical sectors as agriculture and services had also to be taken into account. United Nations agencies and subsidiary bodies should assist developing countries and economies in transition in the collection of accurate and up-to-date information in the field of science and technology: first, in order to identify the key problem areas of particular economies and secondly, to provide information on existing advanced technologies. Such a database would serve as a tool in the formulation of projects and programmes designed to overcome identified deficiencies.

11. It was stressed that the holistic nature of the current technological wave should be recognized, in particular the linkages between science, technology and sustainable development. Sustainable development depended on the efficient use of advanced technology. Scarce scientific and technological resources must be properly allocated to serve domestic needs without losing sight of the possible detrimental environmental impact of the technologies used. Therefore, the quest for ecologically sound technologies created a new burden for developing countries. Efforts of the United Nations system should aim at facilitating access of developing countries to those technologies.

12. Several members of the Commission described their national science and technology policies. Many developing countries, with the exception of the newly industrializing countries, were facing difficulties in maintaining, let alone enhancing, their levels of R&D expenditure.

13. Representatives of some industrialized countries described their bilateral higher-education assistance programmes for developing countries. Such cooperation was often decentralized and involved non-governmental organizations.

14. Regional and subregional experiences with scientific and technological cooperation arrangements were described such as the Bolivar Programme for Regional Technological Integration and Innovation and Industrial Competitiveness of Latin American and Caribbean Products and Enterprises.

15. The ongoing discussion of the reform of the Secretariat was also touched upon. The spokesman for the States Members of the United Nations that are members of the Group of 77 called for the provision of adequate resources and

clearly identifiable structures for the full implementation of the programmes defined in the medium-term plan in the field of science and technology. Special concerns were expressed for the continuation of the United Nations endogenous capability-building project in developing countries.

16. Representatives of United Nations agencies and observers for non-governmental organizations summarized some of their programmes in connection with the substantive theme. The representative of the International Labour Organisation drew the attention of the Commission to the impact on employment of global changes in the reallocation of productive activities by transnational corporations. The representative of the Latin American Economic System (SELA) recalled that SELA had been concerned with technical change and productivity in Latin America from its inception and would continue to work closely with the United Nations Secretariat, the specialized agencies and other intergovernmental entities, as well as with non-governmental organizations, in their endeavour to promote scientific and technological development in developing countries.

17. The representative of the United Nations Industrial Development Organization (UNIDO) referred to the impact of macroeconomic factors on the evolution of global economic trends. He drew the Commission's attention to the fact that science and technology had been a casualty of fiscal adjustment programmes adopted by developing countries. He suggested that the revitalization of existing R&D institutions and mechanisms take into consideration the new components of the current global economic reality. He said that a certain amount of reassessment of science and technology was required and there was no better body to do that than the Commission. Three areas required study: technology transfer and management; technology and sustainable development; and new growth areas for new technology. He reviewed the initiatives UNIDO was taking in the area of sustainable development.

18. The representative of the Economic Commission for Africa (ECA) summarized some of the difficulties faced by the region. In particular, the critical problem of the "brain drain" of scientists and skilled human resources was described and analysed. Regional centres of excellence had to be developed in order to circumvent that problem. The alternative sequencing of R&D systems in developed and developing countries to meet different social and economic realities was noted. During the past decade, multilateral and bilateral development funds had declined noticeably, while the demand for cooperation resources in Africa had increased. He also raised the need for a rethinking of the current emphasis on applied research: the traditional sequence of research, development and application should be application, research and development when it came to developing countries - the African countries in particular.

19. The observer for the Western Society of Malacologists examined the problems and possible solutions in bringing new and emerging aquaculture technologies to countries that had potential for developing their cultured pearl industry. The representative of the Société des électriciens et des életroniciens said that the need for scientific and technological data banks was critical. In that regard, he urged the Commission to examine how science and technology could contribute to the well-being of mankind in an environmentally sustainable manner. Finally, the observer for the Sunsat Energy Council described the purpose of his organization and summarized the applications of wireless power transmission, the basic technology for solar power satellites.

20. The Chief of the Science and Technology Branch replied to questions raised during the discussion with respect to the impact of current trends on R&D capabilities in developing countries; the relevance of the policy implications reviewed in the Secretary-General's report for the economies in transition; and the overall importance of policy options at the national level for the evolution of national scientific and technological capabilities in individual countries.

21. In his concluding remarks, the Acting Chairman expressed satisfaction with the high quality of the Secretary-General's report and summarized some of the conclusions regarding the key role of the Commission on Science and Technology for Development: as had been suggested by many members, the Commission should serve, inter alia, as a global framework for the assessment of scientific and technological advancement and of its impact on developing countries and economies in transition. The Commission should review and reassess the new and emerging technologies which would significantly affect the pattern of future development in those countries. The Commission should also promote and conduct workshops and seminars to disseminate knowledge and experience of the technologically developed countries. The analysis should focus on the impact of new technologies on the following areas: the international competitiveness of nations; sustainable development; and employment trends. The Commission should also encourage and stimulate regional and global integration through science and technology. Priorities should be assigned to the establishment of institutional mechanisms related to the implementation of technological cooperation projects. In that endeavour, the Commission could avail itself of the work of United Nations agencies and regional commissions, as well as of the experience of appropriate intergovernmental and non-governmental organizations.

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Distr.
LIMITED

E/CN.16/1993/L.3/Add.2
20 April 1993

ORIGINAL: ENGLISH

COMMISSION ON SCIENCE AND TECHNOLOGY
FOR DEVELOPMENT
First session
12-23 April 1993
Agenda item 12

ADOPTION OF THE REPORT OF THE COMMISSION ON ITS FIRST SESSION

Draft report

Addendum

Rapporteur: Mr. Asrat BULBULA (Ethiopia)

Chapter ___

SCIENCE AND TECHNOLOGY FOR SUSTAINABLE DEVELOPMENT

1. The Commission considered item 6 of its agenda at its 5th and 6th meetings, on 13 April 1993. It had before it the note by the Secretary-General on the implications of the outcome of the United Nations Conference on Environment and Development, including Agenda 21, for the work of the Commission on Science and Technology for Development (E/CN.16/1993/8) and the report of the Secretary-General on the utilization and marketing of energy technologies, focusing on policy issues and options for the effective transfer and application of environmentally sound energy technologies (E/CN.16/1993/9).

A. Scientific and technological implications of sustainable development

2. In her introduction, the Director of the Division of Science, Technology, Energy, Environment and Natural Resources emphasized the role of science and technology for sustainable development, as outlined throughout Agenda 21. The main function of the Commission on Science and Technology for Development would be to provide advice to the Economic and Social Council in the areas of science and technology for sustainable development. With regard to the future work of the Commission, the Commission might wish to consider the following three areas:

(a) endogenous capacity-building in science and technology for achieving sustainable development objectives, particularly in developing countries; (b) technology assessment and forecasting in support of decision-making in science and technology; (c) information management as an essential means for technology assessment and forecasting.

3. The main points of the discussion are presented in the paragraphs below.

4. The provisions of Agenda 21 related to science and technology provide a sufficient framework for the work programme of the Commission. Sustainable development is an integrated concept consisting of mutually dependent ecological, social, economic and technological components to be taken into account in making decisions aimed at applying science and technology for achieving sustainable development objectives. The definitions of environmentally sound technologies provided in Agenda 21 constituted a good starting-point for the more complex conceptualization of sustainable development. Scientific knowledge and technological know-how were needed if sustainable development was to be achieved in developing countries.

5. Since environmental damages often became evident only after they were irreversible, early warning systems were needed to anticipate environmental degradation, along with mechanisms for assessing the local environmental effects of new technologies. That would also support the prevention of the transfer of environmentally "unsound" technologies. The financial implications of science and technology for sustainable development needed to be carefully considered.

6. There was a need to develop guidelines for the efficient interaction with the subsidiary bodies of the Economic and Social Council, particularly with the Commission on Sustainable Development.

7. To enhance the quality of its work, the Commission should make concrete recommendations with a view to (a) identifying work areas and activities to be incorporated in the future work programme of the Commission, taking into account available resources and the potential for their implementation; (b) addressing modalities for the effective interaction with the Commission on Sustainable Development; (c) promoting coordination of activities of the United Nations system in the areas of science and technology for sustainable development.

8. The Commission should group the four work areas identified in the note by the Secretary-General (E/CN.16/1993/8) under one heading and should deal specifically with the application of science and technology for sustainable development and capacity-building in science and technology for sustainable development. It should make proposals on how to provide and facilitate the transfer and application of environmentally sound technologies in priority areas and ways to integrate environmental impact assessment with technology assessment. It should also elaborate on the integration of the concepts of sustainable development and environmentally sound technology in the context of specific conditions and needs of developing countries and economies in transition and on strengthening the role of the scientific and technological communities. The Secretariat was requested to further examine the relationship between science and technology and sustainable development, as well as modalities for effective interaction with the Commission on Sustainable Development.

9. The representative of the United Nations Educational, Scientific and Cultural Organization (UNESCO) indicated that in the early 1950s her organization had pioneered the promotion of renewable energy as a strategy for long-term sustainable development. UNESCO promoted international interdisciplinary activities to stimulate research in and evaluation of global energy problems and to develop training and information programmes to sensitize both specialists and the general public on new energy sources and energy conservation.

10. The representative of the International Labour Organisation (ILO) stated that an ILO survey suggested that during the course of economic development, environmental degradation increased at first and then began to decline.

11. The representative of the World Engineering Partnership for Sustainable Development (WEPSD) stated that his organization was dedicated to unifying the world engineering community to facilitate sustainable development. The primary objective of WEPSD was to create a global network for all engineers through technical advice and information sharing, capacity-building activities, research and development and the demonstration, dissemination and adaptation of environmentally benign technologies.

12. The representative of the Union of International Technical Associations (UITA) observed that Agenda 21 had identified new challenges for the engineering community. In its programmes, UITA directed attention to training and capacity-building activities aimed at improving the standard of education of technicians and engineers in developing countries. To that end, an International Congress of Engineering Deans and Industry Leaders was being organized in close cooperation with UNESCO.

13. The representative of the Third World Academy of Sciences (TWAS) presented the Academy's proposal to establish a network of 20 international centres for science, technology and environment in selected countries of Africa, Asia and Latin America. Those centres of excellence would provide, among other activities, a massive training programme aimed at raising the number of scientists in developing countries from 165 to 1,000 per million inhabitants by the year 2001.

14. The representative of the American Association of Engineering Societies (AAES), in his statement, elaborated on the critical role that engineers play in achieving sustainable development objectives.

15. The representative of the International Council of Scientific Unions (ICSU) stated that ICSU, in collaboration with the World Meteorological Organization, had initiated a world climate research programme to investigate the physics of the climate system and to develop tools for prediction. That activity focused on understanding the interactive physical, chemical and biological processes that regulate the total Earth system.

B. Transfer and application of environmentally sound energy technologies

16. The Director of the Division of Science, Technology, Energy, Environment and Natural Resources stressed the relationship between energy, environment and development, and the resulting paradox: while energy was the prime mover of development, its use and consumption lay at the root of many of the environmental problems. The report of the Secretary-General (E/CN.16/1993/9) provided a brief description of the range of available and emerging energy technologies; discussed policy issues and options for the effective transfer and application of environmentally sound energy technologies; and proposed international and regional cooperation, particularly in the areas of technology assessment, financing and the establishment of appropriate information networks.

17. In clarifying the issue regarding the division of labour among the Commission on Science and Technology for Development and the two Expert Committees, on Natural Resources and on Energy, respectively, the Director referred to the ongoing restructuring, which would have relevance for coordination or for support to intergovernmental bodies. Recommendations on that issue, which the Commission might wish to communicate to the Economic and Social Council, would support the future effective interaction of the intergovernmental bodies dealing with questions related to science and technology.

18. The Commission noted that energy use would increase with development, and that would compound many of the environmental problems already resulting from the combustion of fossil fuels. Because of a lack of financial resources and the often inadequate institutional and technical capacity, developing countries had few, if any, alternatives to the energy systems now in use. Furthermore, many of the new "clean technologies" were still in a demonstration phase and were not yet ready for commercialization. Some, such as solar energy, were in incipient stages of exploitation, but might be the most viable solution for areas remote from the electrical grid. More attention should also be given to hydropower.

19. Two important areas for new energy technologies were those using "dirty" coal for power generation and natural gas for transport. A recent project supported by the Economic and Social Commission for Asia and the Pacific (ESCAP) for substituting compressed natural gas (CNG) for diesel fuel in several Asian countries had met with considerable success.

20. Transfer of new energy technologies was needed, but must be done only after a careful assessment of the impact of the technology within a specific context. Developing countries should not become testing grounds for unproven technologies. It was also important to understand and evaluate how "unsound" technologies could continue to be transferred. Centres of excellence might help, but should be concerned with traditional as well as advanced energy technologies. In addition, without endogenous capacities and particularly the relevant training, the transfer of new energy technologies could worsen an existing situation. The institutional and managerial components might, however, also be transferred, particularly at the regional and subregional levels. Systems of information on new energy technologies, as well as on other technologies and related policies, were essential to making good technological

decisions at the national level. Parallel to that, all countries needed to have access to current and accurate data, including the managerial and technical support required.

21. The key to the transfer of new energy technologies was financing. Joint efforts among developed and developing countries and countries in transition were needed to establish research and development strategies for the generation, transfer and effective use of environmentally sound energy technologies, including the provision of resources needed for the demonstration and commercialization of such technologies. The modalities for assisting the transfer of environmentally sound technologies to developing countries must be explored in more detail.

22. Continued emphasis was placed on the importance of education, including technical training, and on other aspects of endogenous capacity-building, including technology assessment and the strengthening of institutional, organizational and managerial capabilities.

23. The representative of the non-governmental organization Sunsat Energy Council stressed the new ways to protect the environment while advancing development. While the environmental and societal advantages of the widespread use of practical terrestrial renewable energy options were worth pursuing, it was also critical to develop promising energy production options that could sustain global economic growth without creating irreversible damage to the ecology. As part of any assessment of alternative energy sources, inexhaustible solar energy must be seriously considered. Baseload power could be provided by converting solar energy in space for use on Earth for distribution on a global scale. That could be accomplished with solar power satellites (SPS) in Earth orbits or, in the more distant future, constructed on the lunar surface.

24. In summarizing the debate on agenda items 6 (a) and (b), the Chairman expressed appreciation to the Secretariat for the quality of the two documents prepared for the agenda item and endorsed the main suggestions contained therein. He also expressed his appreciation to the organizations and agencies of the United Nations system for their many useful and substantive interventions and suggested that they provide to the Commission at its second session written information on all of their relevant activities.

25. The Commission considered Agenda 21 a good framework for its deliberations and recommendations to the Economic and Social Council, taking into account the need for close interaction with the new Commission on Sustainable Development. In particular, recommendations could address (a) measures to enhance the role and the impact of science and technology in developing countries and economies in transition; (b) measures aimed at strengthening international cooperation in science and technology for sustainable development; and (c) coordination of relevant activities of the United Nations system. While the concept of sustainability was understood in its broadest sense, it was emphasized that efforts to operationalize the concept should be concrete and geared towards implementation. The need for funding for the transfer of environmentally sound technology was underscored.

26. The Chairman noted the Commission's strong emphasis on the transfer and application of environmentally sound energy technologies. Fossil fuels were

addressed in particular, in view of their important economic role and their largely negative impact on the environment. The Commission placed special emphasis on ways and means of increasing energy efficiency, as well as on modalities for fostering the development and transfer of clean energy technologies.

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Addendum

Rapporteur: Mr. Asrat BULBULA (Ethiopia)

Chapter ___

ACTIVITIES OF THE UNITED NATIONS SYSTEM

1. The Commission considered item 4 of its agenda at its 7th to 10th meetings, on 15 and 16 April 1993. It had before it the following documents:

(a) Report of the Secretary-General on ways and means of improving the quality of coordination and cooperation in science and technology for development (E/CN.16/1993/3);

(b) Report of the Secretary-General on the assessment of the effect of activities of the United Nations system related to the process of creating and strengthening endogenous capacity-building in science and technology in developing countries (E/CN.16/1993/4);

(c) Report of the Secretary-General on the activities of the Department of Economic and Social Development in science and technology for development (E/CN.16/1993/5);

(d) Report of the Meeting of High-level Experts on Science and Technology for Development (E/CN.16/1993/6);

(e) Note by the Secretariat on the Expert Group Meeting on Technology Assessment, Monitoring and Forecasting (E/CN.16/1993/CRP.1).

2. In introducing item 4, the Director of the Division of Science, Technology, Environment, Energy and Natural Resources of the Department of Economic and Social Development conveyed the commitment of the Secretary-General to enhancing the unity of purpose, coordination, cooperation and complementarity of the United Nations in the economic, social and environmental fields at both the policy and the operational levels. She emphasized the importance of harmonization of science and technology policies through an integrated approach, stressed the need for the United Nations to coordinate its efforts to offer practical assistance at the country level and emphasized endogenous capacity-building as the key to sustainable development. She noted the main features of the pilot programme on endogenous capacity-building currently undertaken by the Department. She also referred to other recent activities of the Department in the field of science and technology, such as technology assessment, conversion of military technologies to civilian use, and science and technology for the least developed countries. She stated that the current restructuring at the United Nations was expected to further enhance its programme on science and technology.

A. Coordination and cooperation in science and technology within the United Nations system

3. The following main points were made during the discussion. The objective of system-wide coordination in science and technology should be to create synergy. While resources fell short of the requirements of developing countries and since many agencies were involved in science and technology, better coordination was needed from the planning and programming stage, especially at the regional and country programme levels.

4. Concern was raised about the proposal to abolish the ACC Task Force on Science and Technology for Development, which has done valuable work. In case it was to be abolished, there was a need to find alternative mechanisms and to foster coordination between the Commission and the agencies. it was suggested that periodic reports be submitted to the Commission by the agencies at each session, a well as information on results of coordinated programmes. That would give members of the Commission an orientation and knowledge about international and inter-agency coordination. It was important for the Commission to act as a synergistic focal point to integrate and orchestrate the efforts carried out by individual agencies and to provide concrete suggestions on that basis to the Economic and Social Council.

5. The Commission should take advantage of its proximity to the Council to make policy recommendations through it to the General Assembly. While the Council was in charge of overall coordination within the United Nations system, the Commission had a role to provide advice on coordination in science and technology, which could form a part of the high-level segment of the Council in 1994. The Commission would be most effective by obtaining regular feedback from its parent body, the Council, and by empowering its bureau with the ability to take action between Commission sessions.

6. System-wide coordination must take into account national or regional priorities and needs, based on the known principle of "Think globally, act locally". Inadequate communication had led to certain duplication of activities, which could be remedied by the creation of an information network as a means of information exchange and dissemination within the United Nations system and to facilitate access by national users. The creation of databases on current science and technology projects, national science and technology policies and global priorities should be an important element of the network. Emphasis should be placed on the use of floppy disks instead of in-print "on-line" communication such as E-mail.

7. With regard to the relationship with the Commission on Sustainable Development, the present Commission should be the substantive body for science and technology and provide expert advice for discussion on sustainable development.

8. The active participation of non-governmental organizations in the current session was welcomed. The Commission should find ways of interfacing with such organizations, which were critical in the coordination process.

B. Assessment of the effect of activities of the United Nations system related to the process of creating and strengthening endogenous capacity-building in science and technology in developing countries

9. The concept of endogenous capacity-building was perceived as central to development cooperation in science and technology. Endogenous capacity-building required the full and active participation of all sectors of society, especially the productive, including the private, sector. The stakeholders' policy dialogues formed a critical part of the exercise and could harness broad-based national consensus on how and where to apply technology. The operational activities with regard to endogenous capacity-building might also differ significantly from country to country, depending on the size and economic, social and cultural context of the country. Endogenous capacity-building should also not be considered in isolation but in relation to specific sectors such as human resources development, environmentally sound technology and foreign direct investment.

10. The social, economic and cultural dimensions of science and technology development, especially macroeconomic policies and regulatory environment, constituted a critical aspect of endogenous capacity-building for both developing countries and economies in transition.

11. It was suggested that a comprehensive programme on endogenous capacity-building relevant to Agenda 21 be developed which could help in achieving the objective of making the transition to environmentally sustainable technologies. The Commission should take upon itself the task of developing and leading such a programme.

12. Commenting on the current pilot programme on endogenous capacity-building being undertaken by the Science and Technology Branch of the Department of Economic and Social Development, representatives commended the underlying

concepts, methodologies and approach that emphasized de facto national execution under the leadership of a National Steering Committee consisting of representative stakeholders drawn from among policy makers, industries, the private sector, the science and technology community and financial and educational institutions. The programme has led to the engagement of local expertise to undertake several critical diagnostic and substantive studies, long neglected in many countries, designed to build a nexus between resources, demand and technology. That proved very useful in building local expertise.

13. In some countries, the endogenous capacity-building programme created an extensive awareness among policy makers and end-users of technologies and helped define priorities aiming at a sustainable course of development through the application of technology and the rational use of resources.

14. The endogenous capacity programme has led to initiatives in human resources development, new legislation and institutional development. It had already impacted on the domestic decision-making process, and hastened the integration of science and technology with macroeconomic policies and developed a portfolio of priority projects. The national policy dialogues under the pilot programme had contributed to the formulation of national technology policies in some countries.

15. It was also noted that without the minimum infrastructure and institutional set-up provided through international assistance, it was difficult to organize endogenous capacity-building activities, particularly in the least developed countries. It was emphasized that endogenous capacity-building should become a key area in the work of the Commission. The programme would need to be integrated with sustainable development and made applicable to other countries, including economies in transition.

C. Activities of the Department of Economic and Social Development in science and technology for development

16. The Commission considered that careful note should be taken of the experience gained by the former Advisory Committee on Science and Technology for Development concerning the future modalities and functioning of the Commission, as well as the role of its secretariat, which should be neutral and not be involved in operational activities. The secretariat should address the entire range of activities within the United Nations system in the field of science and technology and should cooperate both with the private sector and with Governments. One of its functions could be to synergize activities within the system and to serve as the focal point to analyse trends and forecasts. It could also bring to the attention of the Commission science and technology policies of countries and activities of organizations, including the regional commissions.

17. Having reviewed with appreciation the activities conducted by the Department of Economic and Social Development on the subject of conversion of military technology to civilian use, the Commission called upon the General Assembly to consider the subject. Experiences were shared in redirecting resources and skills from defence industries to those with civilian application,

which could be a force for economic development for both countries in transition and many developing countries.

18. With regard to the harmonization of science and technology within the United Nations system, the secretariat should help the Commission in preparing high quality documents, inter alia, on the priority themes chosen for consideration at its subsequent sessions. The Commission should give careful thought to the nature of its output, drawing upon examples such as the World Development Report of the World Bank, the Human Development Report of the United Nations Development Programme (UNDP) and the work of the Committee on Development Planning.

19. Several United Nations agencies and non-governmental organizations expressed their views on the topic of coordination and their prospective inputs to the work of the new Commission.

20. The representative of the United Nations Conference on Trade and Development (UNCTAD) stated that the structural changes that the world was currently experiencing had technology at their root. Developing countries should give greater attention to those policies that foster development, adoption and adaptation of technology in order to take advantage of new opportunities in the process of change. The capability of enterprises to establish information linkages with other economic agents and research institutions would be a principal factor in that context. The work of UNCTAD strived to strengthen the substantive support to intergovernmental bodies, and to the new Commission in particular, ultimately benefiting developing countries and countries in transition.

21. The representative of the United Nations Educational, Scientific and Cultural Organization (UNESCO) expressed the continued need for system-wide cooperation in identifying common areas of interest, as well as joint planning and programming. Several UNESCO programmes currently under implementation, such as that entitled "Science, technology and society", aimed at raising public awareness of the opportunities offered by science and technology. Reference was also made to the United Nations expert group meeting on technology assessment, monitoring and forecasting, held in Paris in January 1993, which was jointly organized by UNESCO and the Department of Economic and Social Development and brought together many United Nations agencies in addition to individual experts.

22. The representative of ILO remarked that his organization - together with other members of the United Nations system - had contributed to endogenous capacity-building in developing countries, stressing the importance of identifying in each national context the factors that influenced that process. He emphasized that countries might be forced to make choices either between immediate (though smaller) increases in output and employment, or longer-term (larger) increases, but with future gains in both output and employment. The latter would be more relevant in the context of achieving sustainable development.

23. The representative of the United Nations Industrial Development Organization (UNIDO) noted that endogenous capacity-building required a close interrelationship with the productive sector. To be effective, capacity-building should be sustained and sustainable over longer periods of time,

involving a systems approach and linked with the productive sector and technology management. Coordination did not mean merely avoidance of duplication, but should rather lead to synergy of system-wide activities.

24. The representative of the United Nations University (UNU) indicated that UNU has been engaged in research, advanced training and the dissemination of knowledge in selected areas. UNU has established research and training centres such as the International Institute for New Technologies in the Netherlands and the International Institute for Software Technology in Macau, as well as a network of centres of excellence in the area of new and renewable sources of energy.

25. The representative of the Office for Outer Space Affairs focused on the immense potential of space technology, emphasizing the importance of Earth satellite observation and communications. Regional centres for space science and technology education were now established at major national science and technology-oriented universities and research institutes. Developing countries were in urgent need of better access to technological literature and information.

26. The representative of a non-governmental organization, the International Association of Impact Assessment (IAIA), outlined the connections between the work of his organization and United Nations activities in technology assessment and in the context of the Rio agreements.

27. In summarizing the discussion on item 4, the Chairman noted that the Commission was of the view that system-wide coordination in the field of science and technology was required more than ever in the context of the increasing role of science and technology in economic and social development, and to operationalize and implement the concept of sustainable development. Special priority should be assigned to enhancing the complementarity of all components of the system in such areas as capacity-building and information management; development, transfer and application of environmentally sound technologies; technology assessment and forecasting; and conversion of military technologies to civilian use. Recognizing that coordination was a complex process, the importance of coherence and harmonized national policies in the area of science and technology was underscored, as well as the need for Governments to articulate such harmonized policies consistently throughout the system.

28. One of the most important roles of the Commission was to assist the Economic and Social Council in carrying out coordination of the science and technology activities of the United Nations system at the global level. An effective coordination mechanism needed to be maintained in the area of science and technology within the restructured framework of the Administrative Committee on Coordination. The Commission should interact closely with relevant intergovernmental and non-governmental organizations and take full advantage of their experience. While Secretariat arrangements and organizational set-up are the prerogatives of the Secretary-General, the need for strong and effective Secretariat support for the work of the Commission was stressed.

29. There was a broad consensus on the crucial importance of endogenous capacity-building, exemplified by the pilot programme undertaken by the Department of Economic and Social Development. Identification of priorities in

science and technology through stakeholders' policy dialogues might provide a useful framework for sustainable development to integrate science and technology into the mainstream of socio-economic development. Over time, the process of participatory priority-setting through policy dialogues should be built into domestic decision-making. The Commission should maintain the topic of endogenous capacity-building in its future work programme and formulate similar programmes to implement the science and technology issues of Agenda 21.

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E/CN.16/1993/L.3/Add.4
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FOR DEVELOPMENT
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Chapter ___

AD HOC PANELS/WORKSHOPS TO EXAMINE SPECIFIC ISSUES OF SCIENCE AND TECHNOLOGY FOR DEVELOPMENT

1. The Commission on Science and Technology for Development considered item 5 of its agenda at its 12th and 13th meetings on 20 April 1993.

2. The Chief of the Science and Technology Branch of the Science, Technology, Energy, Environment and Natural Resources Division of the Department of Economic and Social Development of the United Nations Secretariat, in introducing the item, briefly described the functions of ad hoc panels of experts in providing specialized advice on specific issues of science and technology for development to the former Advisory Committee on Science and Technology for Development. Document E/CN.16/1993/7 presented highlights of each of the 14 panels organized over the last 10 years. The Chief suggested that the Commission consider the possibility of continuing the practice of holding panels.

3. Members of the Commission made several main points during the debate. The importance of inter-sessional activities, given that the Commission was to meet only once every two years, was emphasized, as was the need to obtain expert advice through ad hoc panels on a few carefully selected themes. The composition of such panels should be small and include some members of the Commission, representatives of key agencies of the United Nations system, and intergovernmental and non-governmental organizations, as well as identified top-quality outside experts.

4. While there was no doubt expressed regarding the value of the specialized work of the proposed panels the problem perceived was how to optimize their impact. Such optimization would involve the implementation capacity of the Commission, and effective dissemination of output.

5. It was observed that in the choosing of topics, other bodies and meetings planned on related topics within or outside the United Nations system could provide some options. Agencies of the United Nations system could also be requested to provide their suggestions.

6. It was also pointed out that linkages should be developed among the topics to be chosen in the next four years. The chosen themes should in turn deal with policy analysis, research and coordination.

7. It was observed that it would be better to convene the panels in developing countries so as to obtain a firsthand view of the situation of science and technology at the country level. Regional preparatory meetings on selected themes might be organized as input to the work of the Commission.

8. Concern was voiced over the uncertainty of resources available for organizing the panels. The importance of ensuring the funds for organizing the agreed number of panels was noted. The Secretary-General might be requested to make the necessary budgetary provisions. Possibilities of raising extrabudgetary funds for the organization of panels on those themes should also be pursued.

9. Some topics proposed for future panels included: (a) science and technology for ensuring food security; (b) environmentally sound technology for waste management; (c) science and technology in meeting the basic needs of population; and (d) application of science and technology in improving the productivity of the informal sector.

10. The representative of the American Institute of Physics addressed the Commission and emphasized the important role of science and technology in the culture of a nation. He proposed that the science and technology programme for development should have an accompanying educational programme dedicated to the objective of building a culture.

11. The representative of the World Association of Industrial and Technological Research Organizations (WAITRO) emphasized the important role of science and technology in the programme and activities of WAITRO. The ironic nature of the fact that science and technology funding in developing countries was decreasing while awareness of its importance was increasing was pointed out.

12. The representative of the Organizing Committee for the International Association of Technology Assessment and Forecasting Institutions (IATAFI) noted that IATAFI was currently being established under the auspices of the United Nations. The goal of IATAFI was to establish international cooperation, joint projects and information exchanges with a particular emphasis on linking activities in the developed countries with those in the developing ones.

13. In responding to the deliberations of Commission members, the Chief of the Science and Technology Branch emphasized the relationship that existed between

thematic activities and the future work of the Commission. He provided clarification on the subject of science and technology for the meeting of basic needs and on that of the continuing validity of the Vienna Programme of Action on Science and Technology for Development.

14. In summary, the Chairman stressed that it was essential for the Commission to obtain adequate resources and expert advice for its work. He felt that in order to maximize the catalytic impact of the Commission's work, relationships with other entities within the United Nations system and with the non-United Nations system organizations concerned must be cultivated and maintained.

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FINANCING SCIENCE AND TECHNOLOGY FOR DEVELOPMENT, INCLUDING ACTIVITIES OF THE UNITED NATIONS FUND FOR SCIENCE AND TECHNOLOGY FOR DEVELOPMENT

1. The Commission considered item 7 of its agenda at its 11th meeting, on 19 April 1993.

2. The Chief of the Science and Technology Branch introduced the report of the Secretary-General on the organization of a coalition of resources to finance science and technology for development (E/CN.16/1993/10) and referred to the efforts of the international community to establish a framework and structure in the United Nations to finance the scientific and technological needs of developing countries, noting in particular the agreement reached at the United Nations Conference on Science and Technology for Development in 1979 to establish a financing system for science and technology for development. The General Assembly at its forty-sixth session had requested the Commission to consider the report of the Secretary-General on the subject and to submit to the General Assembly at its forty-eighth session concrete proposals for organizing a more effective coalition of resources. While considering the subject, the Commission took into account the outcome of the United Nations Conference on Environment and Development, including Agenda 21, and especially the issue of environmentally sound technologies and capacity-building.

3. In reply to a question, the Special Coordinator for relations with Financial Institutions spoke on the approach contained in the Secretary-General's report on the organization of a coalition of resources to finance scientific and technological activities. The new approach would be demand-oriented and would emphasize quantitative additionality. The approach followed in the pilot programme on endogenous capacity-building also constituted an element of a new approach that was likely to be supported by the donor community. That was also in consonance with the recommendations contained in Agenda 21 concerning environmentally sound technologies and capacity-building. The coalition approach should not depend exclusively on sporadic and ad hoc means of interaction; it should be institutionalized. Furthermore, developing countries should be fully and actively involved in designing the coalition and in its functioning. He saw advantages in the second alternative with respect to a coalition modelled after the Consultative Group for International Agricultural Research but said that it should also incorporate some elements of the first alternative as indicated in the report.

4. The high quality of the Secretary-General's report, its reasoning and realism were widely appreciated. The subject of financing science and technology was one of the most important and complex items on the agenda of the Commission. As pointed out in the report of the Secretary-General, any new approach adopted should increase the confidence of donors and provide an incentive for donors to contribute and participate and should also provide for meaningful participation by developing countries. It was mentioned that financing science and technology was not only a technical matter; it also involved an intellectual understanding of how the science and technology system worked and what needed to be done to make it more productive.

5. A coalition of resources was necessary since no single country or agency could finance science and technology alone, and risks must be shared. The dilemma facing the international community and the Commission was that global funds were limited while the development needs of developing countries were increasing, a situation made worse by the fragmentation of the efforts and approaches in the United Nations system.

6. Reference was also made to the inequitable international order, which involved large transfers of resources from developing to developed countries and a meagre net resource in-flow into developing countries for the support of critical areas such as science and technology. In order to have sustainable economic development, science had to have its proper place in culture, and economic strategies should be formulated along the lines of technology-based development.

7. It was emphasized that there was a need to define substantive scope more sharply within the programme of endogenous capacity-building, including such questions as research capacity, technology assessment and environmentally sound technologies. At the same time, endogenous capacity-building priorities differed from country to country and that effort should not lead to a foreclosing of a country's options. In addition, emphasis was also placed on the imperative to consult closely with the donor community. The political support provided by the Economic and Social Council and the General Assembly might provide the necessary impetus and incentive for such donor organizations as the World Bank and the regional development banks to participate fully in

designing the structure and framework of the proposed international association. An interregional consultative meeting of development financing institutions might be organized in early 1994 to consider the issue in an integrated and substantive manner. Substantive preparatory work should precede such a meeting.

8. In relation to United Nations Secretariat support for a new association, it was pointed out that such support should not be provided exclusively by the United Nations and that in certain areas it might be necessary to supplement it with technical competence from outside the United Nations. The possibility of looking for other sources for financing science and technology activities, such as the Global Environment Facility (GEF), should be considered. The idea of organizing a global conference on science and technology, with a particular focus on financing science and technology, was also mentioned.

9. The representative of the Latin American Development Bank recalled the long-standing support of his Bank for science and technology and several initiatives that it had taken in that respect, in particular the implicit coalition approach it was adopting in the Central American region. Such an approach might have a better chance of success at the national and regional levels, supplemented at the global level with a coordination mechanism.

UNITED
NATIONS

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Economic and Social Council

Distr.
LIMITED

E/CN.16/1993/L.3/Add.6
21 April 1993

ORIGINAL: ENGLISH

COMMISSION ON SCIENCE AND TECHNOLOGY
FOR DEVELOPMENT
First session
12-23 April 1993
Agenda item 12

ADOPTION OF THE REPORT OF THE COMMISSION ON ITS FIRST SESSION

Draft report

Addendum

Rapporteur: Mr. Asrat BULBULA (Ethiopia)

Chapter ___

PROGRAMME QUESTIONS

1. The Commission on Science and Technology for Development considered item 8 of its agenda at the 12th and 13th meetings, on 20 April 1993.

2. The Chief of the Science and Technology Branch of the Department of Economic and Social Development of the United Nations Secretariat introduced agenda item 8 by describing the four subprogrammes of programme 17 of the revised medium-term plan for the period 1992-1997 (see document E/CN.16/1993/CRP.2):

(a) Endogenous capacity-building and resource mobilization;

(b) Advanced Technology Assessment System (ATAS);

(c) Coordination and harmonization of activities of the United Nations system in science and technology;

(d) Information services.

3. Each of these subprogrammes includes various types of activities, for example, the issuing of publications such as Update (Technology Assessment) (including the supplement) and the ATAS Bulletin. Operational activities are

related to coordination, harmonization and liaison, international cooperation, and provision of information materials and advisory services, as well as other operational activities providing, inter alia, information support services for science and technology.

4. The programme of work on science and technology for development for 1994-1995 and the functions of both the United Nations Secretariat and the Commission on Science and Technology for Development as outlined in document E/CN.16/1993/CRP.2 were generally supported. However, it was felt that the restructuring process might affect the medium-term programme. The programme content should be preserved.

5. The role of the regional commissions was emphasized. The regional commissions should coordinate the programme at the regional level, according to their relative comparative advantage.

UNITED
NATIONS

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Economic and Social Council

Distr.
LIMITED

E/CN.16/1993/L.3/Add.7
22 April 1993

ORIGINAL: ENGLISH

COMMISSION ON SCIENCE AND TECHNOLOGY
FOR DEVELOPMENT
First session
12-23 April 1993
Agenda item 12

ADOPTION OF THE REPORT OF THE COMMISSION ON ITS FIRST SESSION

Draft report

Addendum

Rapporteur: Mr. Asrat BULBULA (Ethiopia)

Chapter ___

OTHER MATTERS

1. The Commission on Science and Technology for Development considered agenda item 11 at its 1st meeting, on 12 April 1993. This item was added to make it possible for the Commission to consider themes for its future work, in particular its second session.

2. Criteria for the selection of substantive themes for future sessions of the Commission were discussed. It was suggested that the topics chosen should:

(a) Be timely and of global relevance;

(b) Be topics on which sufficient synthesized knowledge existed;

(c) Be based on the comparative advantages of the Commission;

(d) Reflect the concerns of the majority if not all of the countries;

(e) Be appropriate in the context of the Commission's mandate;

(f) Be sufficiently flexible for developing countries to identify courses of action.

3. Among the topics suggested were the following: science and technology and women; science and technology and issues related to the conversion of military technology to civilian use; information science and technologies; application of biotechnology to agriculture, health etc.; science and technology for children, for instance, in relation to educational technologies; linkage between research and development and the production sector; role of science and technology in the informal sector; and ecology.

4. It was stressed that topics chosen should as far as possible be linked to each other, with a view to achieving holistic and multidisciplinary approaches. For instance, the issue of women could be linked to the question of science and technology in the informal sector, as well as to the relationship between research and development and production, and to the question of basic needs. It was proposed that the Commission focus on two or three themes at each session. The topics considered some years previously by the former Advisory Committee could be updated and also taken into account in the selection of future themes.

5. The Director of the Science, Technology, Energy, Environment and Natural Resources Division commended the delegates for reaching a consensus on criteria for the selection of themes for the Commission and underlined the importance of the second session in 1995, which would take place during the fiftieth anniversary of the United Nations. She supported the views expressed by delegates on the need to combine and integrate several interrelated issues into broader themes. It was pointed out that, in addition to United Nations organizations and agencies, the Commission could also, through appropriate modalities, invite the private sector and non-governmental organizations to contribute to its work.

6. The Commission also felt that unrealistic goals should be avoided and that it should instead direct its work towards a clearly defined, specific and pragmatic programme that could be effectively implemented.

7. Lastly, the Chairman pointed out that it might be premature at that stage to discuss the question of financial resources for implementing the work programme of the Commission.

UNITED
NATIONS

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Economic and Social Council

Distr.
LIMITED

E/CN.16/1993/L.4
15 April 1993

ORIGINAL: ENGLISH

COMMISSION ON SCIENCE AND TECHNOLOGY
FOR DEVELOPMENT
First session
12-23 April 1993
Agenda item 3

SUBSTANTIVE THEME: THE CONTRIBUTION OF TECHNOLOGIES, INCLUDING NEW AND EMERGING ONES, FOR THE INDUSTRIALIZATION OF DEVELOPING COUNTRIES AND FOR THE STRENGTHENING OF REGIONAL AND GLOBAL INTEGRATION PROCESSES, INCLUDING PROPOSALS ON WAYS AND MEANS OF TRANSFERRING SUCH TECHNOLOGIES AND FOR THEIR INCORPORATION IN THE PRODUCTIVE SECTOR OF THOSE COUNTRIES

Austria, Costa Rica, Ethiopia, Marshall Islands, Romania, Togo, United States of America and Viet Nam: draft resolution

Education, research and information as basic factors for sustainable development

The Commission on Science and Technology for Development,

Reaffirming the importance of human resources development and endogenous capacity-building in order to achieve sustainable development for all,

1. Emphasizes the role of the educational sector, including universities and research institutions, as the basis, inter alia, for effective science and technology transfer;

2. Notes with interest the measures proposed by Austria as set forth in the document entitled "Austrian Concept for University Development Cooperation";

3. Encourages all industrialized members of the United Nations, and countries in a position to do so, to consider adopting the following measures in the context of their bilateral and multilateral development cooperation activities;

(a) To develop programme packages tailored to the specific scientific, technological and educational system needs of benefiting countries, and emphasizing vocational-, college- and university-level education and research activities as well as educational cooperation with industrial enterprises;

(b) To put emphasis on on-site and South-South university scholarship programmes and the establishment of specialized regional centres of education, training and research in developing countries and in countries with economies in transition, in order to avert cultural alienation and brain-drain effects;

(c) To give encouragement and support to North-South university partnerships and other university networks, aimed at long-lasting, intensive contacts and thus enhancing mutual understanding and high-level expertise on both sides;

(d) To give emphasis to enhancing equitable access of both genders and of all people to science and technology education and science and technology information;

4. Requests the Secretary-General to review the existing science and technology activities of the United Nations system and to study the possibilities of strengthening the United Nations system in facilitating science and technology human resources development and endogenous science and technology capacity-building in developing countries and in countries with economies in transition through educational measures, and to present a report of his findings, along with action-oriented recommendations, to the Commission during its inter-sessional period, including an analysis of the financial implications of the proposed initiatives;

5. Also requests the Secretary-General, in the context of the report requested in operative paragraph 4 above, to review the science and technology information networking of the United Nations system and to explore the feasibility of providing broad and affordable access to international scientific networks, especially the International Project Management Association (INTERNET), to developing countries and to countries with economies in transition, and to make proposals, inter alia, on financial implications, with a view to creating a global means of scientific communication and information transmission;

6. Recommends that the Economic and Social Council invite all relevant entities of the United Nations system to consider ways and means of harnessing the resources of the education and research sector for the purpose of enhancing endogenous science, technology and research capacity-building in developing countries and in countries with economies in transition.

UNITED
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Economic and Social Council

Distr.
LIMITED

E/CN.16/1993/L.5
21 April 1993

ORIGINAL: ENGLISH

COMMISSION ON SCIENCE AND TECHNOLOGY
FOR DEVELOPMENT
First session
12-23 April 1993
Agenda item 11

OTHER MATTERS

United Kingdom of Great Britain and Northern Ireland:
draft decision

Preparation of analytical reports by the Commission on
Science and Technology for Development

The Commission on Science and Technology for Development recommends to the Economic and Social Council the adoption of the following draft decision:

The Economic and Social Council decides that the Commission on Science and Technology for Development will adopt, within existing resources, the procedures for preparing analytical reports contained in the annex to the present decision.

Annex

TASKS OF THE COMMISSION ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT
AND PREPARATION OF ANALYTICAL REPORTS BY THE COMMISSION

1. The tasks of the Commission on Science and Technology for Development include, inter alia:

(a) Assisting the Economic and Social Council in providing science and technology policy guidelines and recommendations to member States, in particular developing countries;

(b) Providing innovative approaches to improving the quality of coordination and cooperation in the area of science and technology within the United Nations system, with a view to ensuring optimum mobilization of resources;

(c) Supporting, within the mandate of the Commission on Science and Technology for Development, the Commission on Sustainable Development.

2. In order to fulfil its tasks, the Commission's work should include the preparation of reports on a limited number of substantive topics. In preparing those reports the Commission should adopt the following procedures:

(a) The substantive themes for each session of the Commission should be determined by the Commission at its previous session, taking into account the agenda of the General Assembly and other agreed criteria. The Secretary-General will be invited to suggest possible themes after consultations with relevant agencies of the United Nations system;

(b) For each theme chosen, the Commission will establish a panel of its own members having responsibility for preparing a draft report for consideration by the Commission as a whole at its next session. In addition, other experts may be involved in the preparatory process. The panels will appoint their own chairman and rapporteur and determine their method of work. They will be assisted by the Commission secretariat. A lead agency of the United Nations system may be invited to work with the panel in identifying the activities relevant to the theme within the United Nations system;

(c) Once adopted by the Commission, the substantive theme reports will be submitted to the Economic and Social Council as representing a major output from a particular session of the Commission, and will also be given wider distribution throughout the development community;

(d) In order for the Commission to evaluate the reports effectively at its plenary meetings, its consideration of those reports will occur in two stages. The first stage will be devoted primarily to technical discussion of the draft chapters and selection of substantive themes for the next session of the Commission. The second stage will be devoted, as necessary, to intergovernmental negotiations concerning draft recommendations and resolutions. The total duration of a given session of the Commission will be kept as short as possible and comprise no more than seven working days.

3. These methods of work will be implemented within existing resources available for science and technology [within the United Nations system]. To supplement those resources, member States and relevant organizations are encouraged to provide voluntary contributions.

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Economic and Social Council

Distr.
LIMITED

E/CN.16/1993/L.6
21 April 1993

ORIGINAL: ENGLISH

COMMISSION ON SCIENCE AND TECHNOLOGY
FOR DEVELOPMENT
First session
12-23 April 1993
Agenda item 3

SUBSTANTIVE THEME: THE CONTRIBUTION OF TECHNOLOGIES, INCLUDING NEW AND EMERGING ONES, FOR THE INDUSTRIALIZATION OF DEVELOPING COUNTRIES AND FOR THE STRENGTHENING OF REGIONAL AND GLOBAL INTEGRATION PROCESSES, INCLUDING PROPOSALS ON WAYS AND MEANS OF TRANSFERRING SUCH TECHNOLOGIES AND FOR THEIR INCORPORATION IN THE PRODUCTIVE SECTOR OF THOSE COUNTRIES

Belarus, Cape Verde, China and the United States of America: draft resolution

Military conversion for socio-economic development and related matters

The Commission on Science and Technology for Development recommends to the Economic and Social Council the adoption of the following draft resolution:

The Economic and Social Council,

Recalling principle 25 of the Rio Declaration on Environment and Development, 1/ adopted by the United Nations Conference on Environment and Development, which states that peace, development and environmental protection are interdependent and indivisible,

Recalling also General Assembly resolution 46/36 C of 6 December 1991, in which the Assembly stressed the growing importance of the relationship between disarmament and development in current international relations, and Assembly resolution 46/36 B, in which the Assembly recalled the report of the

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1/ Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, vol. I, Resolutions adopted by the Conference (United Nations publication, Sales No. E.93.I.8 (vol. I), resolution 1, annex I.

Secretary-General transmitting the study on charting potential uses of resources allocated to military activities for civilian endeavours to protect the environment,

Welcoming the timely presentation of the report of the Secretary-General, 2/ of 23 October 1992, entitled "New dimensions of arms regulation and disarmament in the post-cold war era", in response to the review of the implementation of the recommendations and decisions adopted by the General Assembly at its tenth special session and on the occasion of Disarmament Week, as constituting a set of considerations and recommendations that deserve close attention by the international community,

Recalling General Assembly resolution 44/14 E, in which the Assembly decided, inter alia, to entrust the Centre for Science and Technology for Development of the Secretariat to serve as the focal point for technological assessment within the United Nations system and, where possible, for relations with Governments and non-governmental organizations concerning technological assessment activities in Member States, and resolution 46/165, in which the Assembly reaffirmed the role of the Centre,

Noting the deliberations at the recent United Nations conferences in Beijing, Dortmund and Moscow on military conversion,

1. Reaffirms that in the era of global concern for the environment and in the new political climate, conversion of military technology for civilian use and sustainable development should receive increased international attention with appropriate support and involvement of the United Nations;

2. Requests the Secretary-General to submit to the Economic and Social Council at its substantive session of 1995 a report on military conversion for socio-economic development with a focus on technology assessment issues, particularly economic effects, employment implications and environmental consequences.

2/ A/C.1/47/7.

UNITED
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Economic and Social Council

Distr.
LIMITED

E/CN.16/1993/L.7
21 April 1993

ORIGINAL: ENGLISH

COMMISSION ON SCIENCE AND TECHNOLOGY
FOR DEVELOPMENT
First session
12-23 April 1993
Agenda item 6

SCIENCE AND TECHNOLOGY FOR SUSTAINABLE DEVELOPMENT

Draft resolution submitted by the Chairman's Working Group

Science and technology for sustainable development

The Commission on Science and Technology for Development recommends to the Economic and Social Council the adoption of the following draft resolution:

The Economic and Social Council,

Recalling General Assembly resolution 47/191 on institutional arrangements to follow up the United Nations Conference on Environment and Development,

Emphasizing the importance of effective interaction between the Commission on Science and Technology for Development and the Commission on Sustainable Development,

1. Takes note of the following documentation prepared by the United Nations Secretariat under the agenda item entitled "Science and technology for sustainable development" for the first session of the Commission on Science and Technology for Development:

(a) Note by the Secretary-General on the implications of the outcome of the United Nations Conference on Environment and Development, including Agenda 21, for the work of the Commission on Science and Technology for Development;

(b) Report of the Secretary-General on the utilization and marketing of energy technologies, focusing on policy issues and options for the effective transfer and application of environmentally sound energy technologies;

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2. Stresses the critical importance for all countries, and for the developing countries in particular, of harnessing the potential of science and technology in view of achieving the objectives set forth by the United Nations Conference on Environment and Development;

3. Emphasizes, in this respect, the major relevance of the activities of the United Nations system in the areas of science and technology, particularly in endogenous capacity-building, as well as technology transfer, technology assessment and forecasting, information management and science for sustainable development;

4. Decides that the Commission on Science and Technology for Development should place particular emphasis in its work on policy issues and options related to the development, transfer and utilization of environmentally sound technologies, specifically addressing the following technologies:

(a) New and renewable sources of energy;

(b) Clean coal technologies;

(c) Alternative fuel technologies;

(d) Biotechnologies;

(e) Technologies associated with health and food;

(f) Technologies related to natural resources;

(g) Indigenous technologies;

5. Encourages bilateral and multilateral donors to further support the development, transfer and application of environmentally sound technologies;

6. Supports United Nations activities and international cooperation aimed at promoting the use of efficient and cleaner technologies, and recommends to all interested countries the assigning of a high priority to improvement of the efficiency of their existing powerplants, and also to international cooperation to promote such improvement;

7. Calls upon the Commission on Sustainable Development to interact closely with the Commission on Science and Technology for Development and to take advantage of its work while reviewing the science and technology-related chapters of Agenda 21; 1/

1/ Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1991, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8 (Vol. I)), resolution 1, annex II.

8. Requests the Secretary-General to ensure that the members of the Commission on Science and Technology for Development are kept informed of, and that effective coordination takes place during the inter-sessional period with respect to, those aspects of the work of the Commission on Sustainable Development that have direct or indirect bearing on the work of the Commission on Science and Technology for Development, and to report on this subject to the Commission on Science and Technology for Development at its second session.

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Economic and Social Council

Distr.
LIMITED

E/CN.16/1993/L.8
21 April 1993

ORIGINAL: ENGLISH

COMMISSION ON SCIENCE AND TECHNOLOGY
FOR DEVELOPMENT
First session
12-23 April 1993
Agenda item 3

SUBSTANTIVE THEME: THE CONTRIBUTION OF TECHNOLOGIES, INCLUDING NEW AND EMERGING ONES, FOR THE INDUSTRIALIZATION OF DEVELOPING COUNTRIES AND FOR THE STRENGTHENING OF REGIONAL AND GLOBAL INTEGRATION PROCESSES, INCLUDING PROPOSALS ON WAYS AND MEANS OF TRANSFERRING SUCH TECHNOLOGIES AND FOR THEIR INCORPORATION IN THE PRODUCTIVE SECTOR OF THOSE COUNTRIES

Draft resolution submitted by the Chairman's Working Group

Contribution of technologies, including new and emerging ones, to the industrialization of developing countries and the strengthening of regional and global integration processes, including proposals on ways and means of transferring such technologies and for their incorporation in the productive sector of those countries

The Commission on Science and Technology for Development recommends to the Economic and Social Council the adoption of the following draft resolution:

The Economic and Social Council,

Noting with appreciation the report of the Secretary-General on the contribution of technology to industrialization and regional and global integration, 1/

Recognizing that appropriate action at the subregional, regional, interregional and international levels can considerably broaden the scope for equitable, sustainable and efficient industrial development at the national level,

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1/ E/CN.16/1993/2.

Considering that ongoing globalization trends define new modalities of international specialization to which developing countries and economies in transition must respond,

Bearing in mind the fruitful experience and other innovative approaches to technological cooperation at the regional and subregional levels,

Emphasizing that priority attention must be given to support activities at the national level as action at the subregional, regional and interregional levels cannot compensate for weakness of the national knowledge base,

Considering the contribution of technologies, including new and emerging ones, to the industrialization of developing countries and the strengthening of regional and global integration processes,

Pursuing its mandate of promoting and catalysing international cooperation in the field of science and technology for development, in particular in developing countries, and in helping to solve global scientific and technological problems,

Noting the theme and contents of Agenda 21, in particular paragraphs 31.2, 34.13 and 35.3, 2/

Taking into account the spirit of General Assembly resolutions 46/165 of 19 December 1991 and 47/153 of 18 December 1992,

1. Recommends to the General Assembly that it convene a series of meetings of expert panels, drawn from the members of the Commission on Science and Technology for Development, to deliberate on the specific themes identified by the Commission for the purpose of:

(a) Devising ways and means of harnessing scientific and technological education, information and research sectors for enhancing science and technology and research and development capacity in developing countries and countries whose economies are in transition;

(b) Promoting linkages among national, subregional, regional and global science and technology systems and developing internal linkages among organizations within the United Nations system for effective coordination;

(c) Examining and identifying methodologies for the conversion of global military technologies for civilian use and their integration into the development process;

(d) Analysing trends and perspectives in science and technology and their implications for sustainable development;

2/ Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8), resolution 1, annex II.

2. Requests the Secretary-General of the United Nations Conference for Trade and Development to report to the Commission on Science and Technology for Development, at its second session, on the results being obtained through the work of the Ad Hoc Working Group on the Interrelationship between Investment and Technology Transfer;

3. Takes note with appreciation of the report by the Director-General for Development and International Economic Cooperation on new developments and trends in the programmes and activities of the United Nations system in science and technology for development, 3/ and in view of the strong interest expressed by the Commission on Science and Technology for Development in the problems of enhancing the linkages between research and development and the productive sector, and the related policy measures, requests the relevant agencies of the United Nations system, in particular the United Nations Industrial Development Organization, the International Labour Organisation and the Food and Agriculture Organization of the United Nations to update the part of the aforementioned report which concerns these problems and policy measures, with particular attention to new developments and the approach being effected in support of Agenda 21, and to indicate any major new opportunities for international cooperation in this matter.

3/ A/CN.11/1991/5.

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Economic and Social Council

Distr.
LIMITED

E/CN.16/1993/L.9
21 April 1993

ORIGINAL: ENGLISH

COMMISSION ON SCIENCE AND
TECHNOLOGY FOR DEVELOPMENT
First session
12-23 April 1993
Agenda item 4

ACTIVITIES OF THE UNITED NATIONS SYSTEM

Draft resolution submitted by the Chairman

Activities of the United Nations system in science and technology for development

The Commission on Science and Technology for Development recommends to the Economic and Social Council the adoption of the following draft resolution:

The Economic and Social Council,

Recalling General Assembly resolution 47/199 of 22 December 1992,

Having considered, through the Commission on Science and Technology for Development, the reports of the Secretary-General on ways and means of improving the quality of coordination and cooperation in science and technology for development, 1/ on the assessment of the effect of activities of the United Nations system related to the process of creating and strengthening endogenous capacity-building in science and technology in developing countries, 2/ and on the activities of the Department of Economic and Social Development in science and technology for development, 3/ the report of the Meeting of High-level Experts on Science and Technology for Development, 4/ and a note by the

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1/ E/CN.16/1993/3.

2/ E/CN.16/1993/4.

3/ E/CN.16/1993/5.

4/ E/CN.16/1993/6.

Secretariat on the Expert Group Meeting on Technology Assessment, Monitoring and Forecasting, 5/ (E/CN.16/1993/CRP.1),

1. Stresses that endogenous capacity-building in science and technology is an indispensable component of any country's effort to mobilize science and technology for development and hence should remain a priority issue on the United Nations agenda;

2. Commends the activities undertaken so far by the United Nations system in assisting the developing countries to enhance their national capacities in the field of science and technology;

3. Commends the innovative features of the series of 10 pilot projects, such as the participatory approach, the demand-driven and developmental orientation and country-level coordination, and requests that those projects be brought to completion and subjected to careful evaluation, with a view to disseminating information on their successful features;

4. Stresses the need for national policies in support of science and technology communities to enhance information-management capacity and to facilitate affordable and widespread access to international online science and technology information networks;

5. Calls upon organizations and agencies of the United Nations system and encourages other international assistance agencies:

(a) To formulate and propose programmes for technical, funding and training assistance in the field of information management and connectivity to global and regional networks for the science and technology communities in all countries;

(b) To support activities aimed at updating and upgrading United Nations-sponsored databases in the field of science and technology and making such databases, including those on science and technology policy, technology assessment and endogenous capacity-building, increasingly available to all countries through online access, floppy disks and other electronic as well as traditional means;

6. Commends the activities of the United Nations in the field of technology assessment, monitoring and forecasting, especially the work related to the Advanced Technology Assessment System, and takes note of the recommendations of the Expert Group which considered the subject at its meeting in Paris, from 25 to 28 January 1993;

7. Invites the Commission on Science and Technology for Development to establish a system for taking inventory of and reporting on the programmes for science and technology activities of the United Nations system, with a view to proposing pragmatic approaches to improving the quality of intergovernmental

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5/ E/CN.16/1993/CRP.1.

coordination and cooperation in the area of science and technology within the United Nations system, and to promoting synergies;

8. Requests the Secretary-General, with the assistance of the relevant organs, organizations and agencies of the United Nations system, in particular the regional commissions and the resident coordinators, to prepare a report on the progress being achieved and any major problems encountered in the application of science and technology for sustainable development at the national, subregional and regional levels, with a view to identifying new options for international action;

9. Requests the secretariat of the United Nations Conference on Trade and Development to submit to the Commission, for comments, the results of the meeting of its ad hoc Working Group on the Interrelationship between Investment and Technology Transfer;

10. Requests the United Nations University to provide the Commission on Science and Technology for Development, at its second session, with a synoptic report on its latest work related to science and technology, in particular the progress achieved in the work of UNU/INTECH, UNU/IIST, UNU/INRA and UNU/BIOLAC, and make proposals, for consideration by the Commission, on the possible measures to be taken to maximize the impact of those initiatives on the work of the United Nations system as a whole, as well as the system's interaction with development-oriented epistemic communities and donor communities in general;

11. Requests the Secretary-General to prepare, for the second session of the Commission on Science and Technology for Development, a report on the progress achieved in coordination and cooperation within the United Nations system, concentrating on endogenous capacity-building in technology assessment, information management, and other themes to be selected by the Commission;

12. Calls upon all Governments to further promote harmonized and coherent approaches and policies to science and technology for development at the national level, and to reflect such harmonized approaches in their multilateral activities throughout the United Nations system;

13. Invites the Commission to develop an appropriate, dynamic mechanism for its interaction with intergovernmental organizations that are not part of the United Nations system, as well as non-governmental organizations, institutions and foundations concerned with science and technology for development;

14. Welcomes, in this connection, such initiatives as that of the Third World Academy of Sciences in establishing regional centres for the application of science and technology for sustainable development in the developing countries;

15. Invites the organs, organizations and agencies of the United Nations system, in their activities related to science and technology, to take full advantage of the potential contribution of relevant intergovernmental organizations outside the United Nations system and of non-governmental organizations.

UNITED
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Economic and Social Council

Distr.
LIMITED

E/CN.16/1993/L.10
21 April 1993

ORIGINAL: ENGLISH

COMMISSION ON SCIENCE AND TECHNOLOGY
FOR DEVELOPMENT
First session
12-23 April 1993
Agenda item 11

OTHER MATTERS

Draft resolution submitted by the Chairman's Working Group

Future work plan

The Commission on Science and Technology for Development,

Noting with appreciation the report of the Secretary-General on the organization of ad hoc panels/workshops on specific issues of science and technology for development, 1/

Taking into account the need to focus the Commission's work,

1. Decides to organize up to four ad hoc panels of experts in the inter-sessional period of two years, in order to deepen analytical work on each of the substantive themes;

2. Also decides to review on an experimental basis the experiences in one region or group of countries with respect to science and technology developments and policy-making, with possible focus on one of the chosen themes;

3. Requests the United Nations Development Programme, the World Bank and the regional development banks, in consultation with the countries concerned, to provide inputs into such a review encompassing the full spectrum of science and technology experiences according to the priorities set by the countries themselves;

4. Decides that teams of experts from the Commission should visit the regions to hold a hearing on the basis of the prepared documents, identifying

1/ E/CN.16/1993/7.

problems and possible remedial policy options for international action, provided that funds are available for such a purpose;

5. Decides to select the following substantive themes for the second session of the Commission in the following order of priority:

(a) Role of science and technology in meeting the welfare and basic needs of the world's poverty groups. This should include an assessment of endogenous capacity implications;

(b) Improvement of the contribution of science and technology to industrialization in developing countries, taking into account the changes in the global science and technology system with respect to the necessary conversion of military technology and the desirability of the science and technology system's focusing on ecologically sound technologies and sustainable development;

(c) Gender-related aspects of the science and technology system, with respect both to participation of women in the system and to the system's impact on the situation of women and children, including the context of the informal sector and basic needs.

UNITED
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Economic and Social Council

Distr.
LIMITED

E/CN.16/1993/L.11
22 April 1993

ORIGINAL: ENGLISH

COMMISSION ON SCIENCE AND TECHNOLOGY
FOR DEVELOPMENT
First session
12-23 April 1993
Agenda item 8

PROGRAMME QUESTIONS

Colombia*: draft resolution

Programme of work for 1994-1995

The Commission on Science and Technology for Development recommends to the Economic and Social Council the adoption of the following draft resolution:

The Economic and Social Council,

Recommends to the General Assembly the adoption of the following draft resolution:

"The General Assembly,

"Recalling its resolutions 46/235 of 13 April 1992 and 47/212 and 47/214 of 23 December 1992,

"Having considered the note by the Secretary-General on programme proposals for the biennium 1994-1995 in the field of science and technology for development, 1/ in particular paragraphs 2 and 5,

"1. Reaffirms the mandates and functions of the Commission on Science and Technology for Development as the main substantive organ of the Economic and Social Council dealing with the global issue of science and technology for development;

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* On behalf of the States Members of the United Nations which are members of the Group of 77.

1/ E/CN.16/1993/CRP.2.

"2. Also reaffirms the need to count on the substantive support of an efficient Secretariat provided with a level of resources commensurate with its functions;

"3. Requests the Secretary-General to take all necessary measures to ensure the full implementation of programme 17 of the medium-term plan for the period 1992-1997 and, in particular, to provide resources for the implementation of the activities proposed for the biennium 1994-1995 in the field of science and technology for development, 1/ taking into account the priority attached to these activities within the medium-term plan;

"4. Also requests the Secretary-General to ensure that the Secretariat unit having primary responsibility for the implementation of programme activities in the field of science and technology for development, including the substantive servicing of the Commission, will be managed in an integrated manner, and further requests the Secretary-General to provide for its strengthening in terms of the efficient organization of the Secretariat;

"5. Further requests the Secretary-General to make sufficient provisions within the programme budget for 1994-1995 for the implementation of technical cooperation activities in the field of science and technology;

"6. Requests the Secretary-General to clarify the division of labour and coordination arrangements for the efficient functioning of Secretariat units in the field of science and technology for development, particularly the Department for Policy Coordination and Sustainable Development, the Department for Development Support and Management Services, the United Nations Conference on Trade and Development and the regional commissions;

"7. Expresses concern regarding the proposed abolition of the Task Force on Science and Technology for Development of the Administrative Committee on Coordination and the negative impact this may have on the quality of coordination of system-wide activities in these fields;

"8. Requests the Secretary-General to provide the necessary resources for convening at least four inter-sessional ad hoc panels/workshops on specific issues in the field of science and technology, which will provide crucial input into the work of the Commission in terms of independent, specialized and expert advice;

"9. Urges the Secretary-General to make every possible effort to adhere strictly to existing rules and to avoid the repetition of the regrettable experience of the late issuance of documentation for the first session of the Commission."

UNITED
NATIONS

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Economic and Social Council

Distr.
LIMITED

E/CN.16/1993/L.12
22 April 1993

ORIGINAL: ENGLISH

COMMISSION ON SCIENCE AND TECHNOLOGY
FOR DEVELOPMENT
First session
12-23 April 1993
Agenda item 7

FINANCING SCIENCE AND TECHNOLOGY FOR DEVELOPMENT,
INCLUDING ACTIVITIES OF THE UNITED NATIONS FUND
FOR SCIENCE AND TECHNOLOGY FOR DEVELOPMENT

Colombia*: draft resolution

Financing science and technology for development

The Commission on Science and Technology for Development recommends to the Economic and Social Council the adoption of the following draft resolution:

The Economic and Social Council

Recommends to the General Assembly the adoption of the following draft resolution:

"The General Assembly,

"Acknowledging the unique role of the United Nations in science and technology for development,

"Recognizing that there is a need to harmonize the efforts of separate sources of funding science and technology in the light of the changing global socio-economic environment,

"Noting that while funding sources are limited, the need for funds to finance science and technology for development is vast and is increasing,

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* On behalf of the States Members of the United Nations which are members of the Group of 77.

"Observing that the level of cooperation and collaboration in programmes of endogenous capacity-building still make it necessary to increase financial support through the United Nations system,

"Recalling its resolution 46/165 of 19 December 1991, in which it requested the Secretary-General to submit to it concrete proposals for organizing a more effective coalition of resources to meet the scientific and technological needs of developing countries,

"Recalling further, its resolution 47/190 of 22 December 1992, in which it called upon all concerned to implement all commitments, agreements and recommendations reached at the United Nations Conference on Environment and Development, especially by ensuring provision of the means of implementation under section IV of Agenda 21, 1/

"Taking note of the report of the Secretary-General on this subject, 2/ which was submitted to the Commission on Science and Technology for Development at its first session,

"1. Decides to maintain as a priority its efforts to enable developing countries to address their needs for funds and cooperation to enhance the input of science and technology into their development programmes and to build up an endogenous capacity; these efforts should be based on the stated needs and requirements of developing countries;

"2. Also decides to re-examine the role played by the United Nations Fund for Science and Technology for Development in favour of a more suitable and effective contribution for funding science and technology for development;

"3. Decides that a process aimed at establishing an international coordination mechanism for financing scientific and technological activities must be undertaken and that the process should be oriented according to the following guidelines:

"(a) The mechanism will serve as a flexible tool to mobilize resources and facilitate the integrated financing of comprehensive national, regional, interregional and global scientific and technological initiatives aimed at endogenous capacity-building on the basis of priorities determined by the recipients;

"(b) The mechanism will be a body open to the representation of private, public and multilateral institutions, including in particular the United Nations Development Programme, the World Bank, the regional development banks, national and international foundations and other donors for science and technology for development;

1/ Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8), resolution 1, annex II.

2/ E/CN.16/1993/10.

"(c) An organizational meeting of experts should be convened by the Secretary-General with the main potential participants to exchange ideas and agree on the structure, modes of functioning and actions necessary to launch the mechanism, in accordance with the arrangements outlined in the annex to the present resolution;

"4. Requests the Secretary-General to submit to the Economic and Social Council at its substantive session of 1994 a report on the implementation of the present resolution."

"Annex

"ORGANIZATIONAL ARRANGEMENTS FOR AN INTERNATIONAL MECHANISM OF SCIENCE AND TECHNOLOGY FINANCING INSTITUTIONS"

"Objective

"1. The objective is to assemble an organized coalition of resources drawn from a variety of domestic, bilateral and multilateral sources to finance science and technology activities in developing countries.

"Programmatic focus

"2. The mechanism should be considered in the context of human resources and endogenous capacity-building in science and technology, which includes activities for building national capacity to choose, acquire, adapt, utilize and develop technologies, including new technologies. The precise areas of concentration should be further considered, taking into account the array of needs of Member States.

"Matters to be decided

"3. The organizational meeting will decide on the following aspects of the mechanism:

"(a) Structure. Arrangements will be made for a definition of status, as needed:

"(i) Participants;

"(ii) An Executive Board, composed of representatives of the participants, to monitor the implementation of the decisions of the participants;

"(iii) Secretariat support services, to be jointly provided by the United Nations unit in charge of science and technology and by the United Nations Development Programme;

"(b) Mode of operation. The mechanism will seek improvements in the coordination and level of grants, co-financing and soft loans. The

mechanism will adopt a programmatic/portfolio approach and encourage national execution, supplemented, where necessary, by external expertise;

"(c) Alternative sources of financing (such as the Global Environment Facility) will be considered;

"(d) Programmatic policy. Thematic and operative criteria will be defined for coordinating the financing of scientific and technological activities."